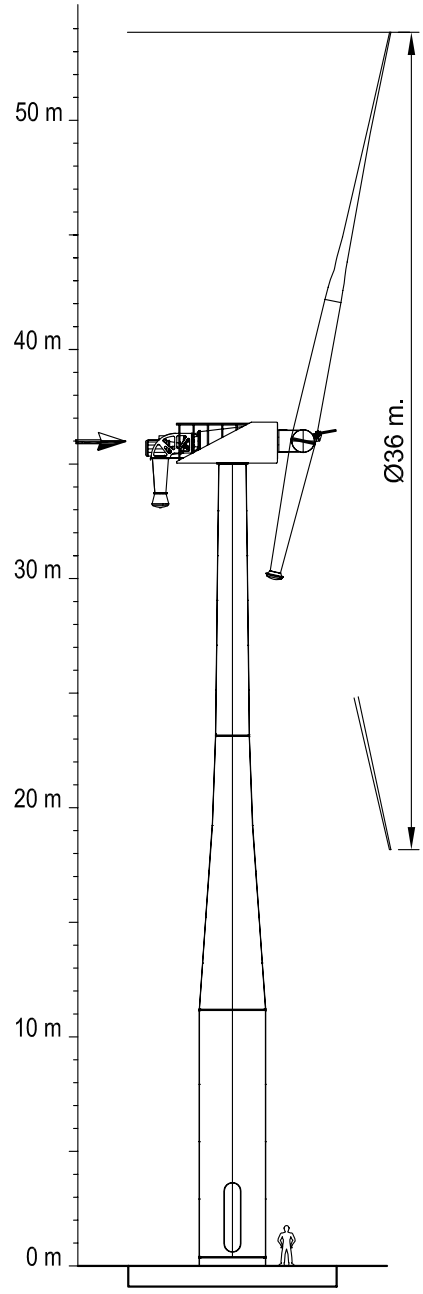
ADES PENDULAR WIND TURBINE 200 kW

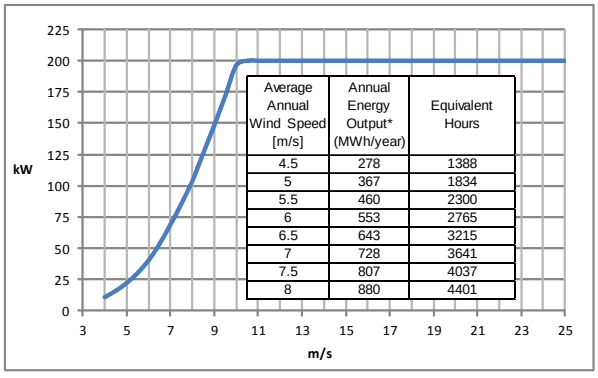
www.ades.tv / e-mail: ades@ades.tv / phone: 00 34 976 57 11 93 / fax: 00 34 876 24 60 24



1	Rated power (kW)	200
	Rated wind speed (m/s)	10.5
	Cut in / out Speed (m/s)	3.5 / 20
	Wind direction	Downwind
	Wind class	IEC III
	Operating temperature range	-20 º C to 45 º C
2	ROTOR	Swivelling Single blade
	Material	Fibreglass / epoxy resin
	Turbined area (m^2) / Ratio m^2/kW	880 / 4.4
	Pitch	Variable
	Rotor Speed (rpm)	up to 56
	Max torque (kNm) / Thrust (kN)	45 / 38
	Turn direction	Clockwise (looking to downwind)
	Rotor height (m)	30
	Weight (kg)	3950
3	PENDULUM	
	Multiplication ratio	15.7
	Efficiency %	96
	Lubrication	Oil bath
	Generator	Squirrel-cage rotor
	Number of poles	8
	Voltage (V)	up to 500
	Frequence (Hz)	50 / 60 Hz
	Proteccion class	IP 54
	Thermal class	F
	Weight (kg)	4300
4	Nacelle Weight (kg)	2000
5	Weight over tower (kg)	10250
6	Tower weight (kg)	12500
7	Total structure weight (kg)	22750
8	Electrical cabinet (kg)	1100
9	Sound power level dB(A)	74

ELECTRIC POWER STD CONDITIONS

Cleand Blade - ρ= 1,225 kg/m^3

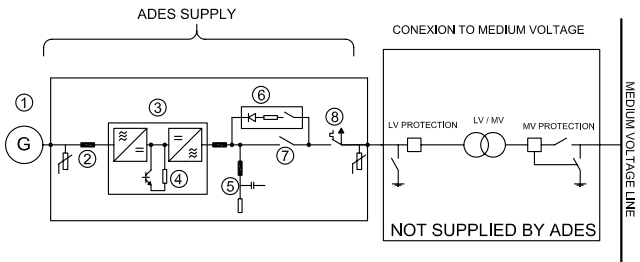


Average Annual Wind Speed [m/s]	Annual Energy Output* (MWh/year)	Equivalent Hours
4.5	278	1388
5	367	1834
5.5	460	2300
6	553	2765
6.5	643	3215
7	728	3641
7.5	807	4037
8	880	4401

Tolerance ± 3%

*Annual energy production estimates assumes a Rayleight wind distribution, standard conditions, no transmission losses and 100% availability.

UNIFILAR SCHEME



1. SQUIRREL CAGE GENERATOR
2. dV/dt FILTER
3. POWER CONVERTER
4. CHOPPER BREAKER
5. GRID FILTER
6. PRE-CHARGING UNIT
7. MAINS CONTACTOR
8. MAINS CIRCUIT BREAKER

In comply with Operating Procedure for Voltage Dips and EMC